What is claimed is:

1. An input device which generates control information by moving an object to be detected, comprising:

an image capture section which captures an image of the object to be detected;

a feature point extraction section which extracts a feature point of the image captured by the image capture section;

a difference calculation section which calculates a difference between a reference position and a position of the feature point; and

a control information output section which outputs the control information corresponding to the calculated difference.

2. The input device as defined in claim 1,

wherein the reference position is a position of a feature point extracted from an image of the object to be detected in a frame at least one frame before the current frame.

3. An input device which generates control information by moving an object to be detected, comprising:

an image capture section which captures an image of the object to be detected;

an area calculation section which calculates an area of the image captured by the image capture section;

a difference calculation section which calculates a difference between an area of the image of the object to be detected in a frame at least one frame before the current frame and the area calculated by the area calculation section; and

a control information output section which outputs the control information corresponding to the calculated difference.

4. The input device as defined in claim 3, wherein:

the image capture section includes a detection surface and captures an image of an object to be detected which is in contact with the detection surface; and

the control information output section outputs the control information corresponding to the moving amount of the object to be detected in an axis direction perpendicular to the detection surface.

5. An input device which generates control information by moving an object to be detected, comprising:

an image capture section which includes a detection surface and captures an image of the object to be detected which is in contact with the detection surface;

a center-of-gravity calculation section which calculates a center of gravity of the image captured by the image capture section;

a feature point extraction section which extracts a feature point of the captured image;

a center-of-gravity movement detection section which calculates a first difference between a center of gravity of an image of the object to be detected in a frame at least one frame before the current frame and the center of gravity calculated by the center-of-gravity calculation section;

a feature point position movement detection section which calculates a second difference between a position of a feature point of an image of the object to be detected in a frame at least one frame before the current frame and a position of the feature point extracted by the feature point extraction section; and

a rotation angle detection section which detects a rotation angle around one of a first axis and a second axis which are perpendicular to each other on the detection surface based on the first difference and the second difference,

wherein the rotation angle detection section calculates the rotation angle

around the second axis by subtracting a first axis direction component of the second difference from a first axis direction component of the first difference, calculates the rotation angle around the first axis by subtracting a second axis direction component of the second difference from a second axis direction component of the first difference, and outputs the control information corresponding to the rotation angle around the first axis or the second axis.

6. The input device as defined in claim 5,

wherein the rotation angle detection section calculates a rotation angle between a feature point of an image of the object to be detected in a frame at least one frame before the current frame and the feature point extracted by the feature point extraction section around a reference point as a rotation angle around a third axis which is perpendicular to the detection surface, and outputs the control information corresponding to the rotation angle around the third axis.

7. The input device as defined in claim 5, wherein:

the control information corresponding to the movement in the first axis direction is output by subtracting a value obtained by weighting the rotation angle around the second axis with a first coefficient from the first axis direction component of the second difference; and

the control information corresponding to the movement in the second axis direction is output by subtracting a value obtained by weighting the rotation angle around the first axis with a second coefficient from the second axis direction component of the second difference.

8. The input device as defined in claim 5, wherein:

the control information corresponding to the movement in the first axis

direction is output by subtracting a value obtained by weighting the rotation angle around the second axis with a first coefficient from the first axis direction component of the first difference; and

the control information corresponding to the movement in the second axis direction is output by subtracting a value obtained by weighting the rotation angle around the first axis with a second coefficient from the second axis direction component of the first difference.

9. The input device as defined in claim 1, wherein the object to be detected is a fingerprint.

10. The input device as defined in claim 3, wherein the object to be detected is a fingerprint.

11. The input device as defined in claim 5, wherein the object to be detected is a fingerprint.

12. An information device comprising:

the input device as defined in claim 1; and

a processing section which performs control processing based on the control information from the input device.

13. An information device comprising:

the input device as defined in claim 3; and

a processing section which performs control processing based on the control information from the input device.

14. An information device comprising:

the input device as defined in claim 5; and

a processing section which performs control processing based on the control information from the input device.

15. A control information generation method of generating control information by using a captured image of an object to be detected, the control information generation method comprising:

extracting a feature point of an image of the object to be detected;

calculating a difference between a reference position and a position of the feature point; and

outputting the control information corresponding to the difference.

16. A control information generation method of generating control information by using a captured image of an object to be detected, the control information generation method comprising:

calculating an area of the image of the object to be detected which is in contact with a detection surface;

calculating a difference between the calculated area and an area of an image of the object to be detected in a frame at least one frame before the current frame; and

outputting the control information corresponding to the difference in response to the movement of the object to be detected in a direction perpendicular to the detection surface.

17. A control information generation method of generating control information by using a captured image of an object to be detected, the control information generation method comprising:

calculating a center of gravity of the image of the object to be detected which is in contact with a detection surface and extracting a feature point of the image;

calculating a difference between the center of gravity and a center of gravity of an image of the object to be detected in a frame at least one frame before the current frame and calculating a difference between a position of the feature point and a position of a feature point of an image of the object to be detected in the frame at least one frame before the current frame;

detecting a rotation angle around one of a first axis and second axis which are perpendicular to each other on the detection surface, based on the difference in the center of gravity and the difference in the feature point; and

outputting the control information corresponding to the rotation angle.

18. The control information generation method as defined in claim 17, comprising:

calculating a rotation angle around a third axis which is perpendicular to the first axis and the second axis on the detection surface by using a rotation angle between a feature point of an image of the object to be detected in a frame at least one frame before the current frame and the extracted feature point around a reference point.

19. The control information generation method as defined in claim 17, comprising:

outputting the control information corresponding to the movement in the first axis direction or the second axis direction by using the difference in the feature point and the rotation angle around the first axis or the second axis.

20. The control information generation method as defined in claim 18, comprising:

outputting the control information corresponding to the movement in the first axis direction or the second axis direction by using the difference in the feature point and the rotation angle around the first axis or the second axis.